ORDER NO. GAD84055417C1

Service Manual

Radio Cassette
RX-C39
(Metaric Gray)

Portable Stereo Component System

This is the Service Manual for the following areas.

M ...For U.S.A.

C ...For Canada.

■ SPECIFICATIONS

General:

Power Requirement:	AC; 120 V, 60 Hz Battery; 12 V (Eight "D" Size Flashlight Batteries) (Panasonic UM-1 or equivalent) Car battery; with optional car adaptor RP-952
Power Consumption:	21 W (AC only)
Power Output:	12 W (6 W×2)...RMS (max.)
Speaker:	Woofer; 12 cm (5") PM Dynamic Speaker (3Ω) Tweeter; 4×2 cm ($1^1/_2$"×$^3/_4$") Ceramic Speaker (1.4 kΩ)
Input:	MIC; sensitivity 0.25 mV/applicable microphone impedance 200Ω~600Ω LINE IN; sensitivity 250 mV/68 kΩ over DC IN; 13.2 V
Output:	EXT SP; 3~8Ω HEADPHONES; 32Ω
Dimensions:	Total Size 540(W)×208(H)×162(D) mm ($21^1/_4$×$8^3/_{16}$×$6^3/_8$)" Main Unit 277(W)×208(H)×162(D) mm ($10^7/_8$×$8^3/_{16}$×$6^3/_8$)" Speaker Box 134(W)×208(H)×135(D) mm ($5^5/_{16}$×$8^3/_{16}$×$5^3/_4$)"
Weight:	3.8 kg (8 lb. 6.8 oz.) without batteries

Radio Section:

Radio Frequency Range:	FM; 88~108 MHz AM; 525~1610 kHz (571~186 mm)
Intermediate Frequency:	FM; 10.7 MHz AM; 455 kHz
Sensitivity:	FM; 1.5μV/50 mW output (−3 dB Limit Sens.) AM; 178μV/m/50 mW output

Tape Deck Section:

Frequency Response:	90~13,000 Hz (with normal tape)
Recording System:	AC bias, MAGNET erase
Tape Speed:	4.8 cm/s, ($1^7/_8$ ips)
Program Time:	1 hour with C-60 cassette tape
Track System:	4-track 2 channel stereo recording and playback

Weights and dimension shown are approximate.
(Les poids et dimensions mentionnes sont approximatits.)
Specifications are subject to change without notice.

Panasonic®

Matsushita Engineering and Service Company
50 Meadowland Parkway,
Secaucus. New Jersey 07094

Panasonic Hawaii Inc.
91-238 Kauhi St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave, 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

SAFETY PRECAUTIONS (For U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, sheilds, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

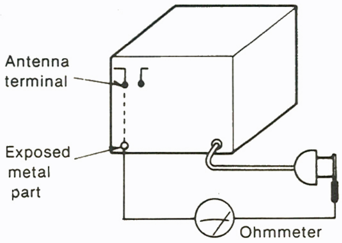

Antenna terminal
Exposed metal part
Ohmmeter

Fig. 1

Resistance = 3 MΩ—5.2 MΩ

INSULATION RESISTANCE TEST (For U.S.A.)

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3 MΩ and 5.2 MΩ to all exposed parts*. (Fig. 1) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. 2)
   ∗ **Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

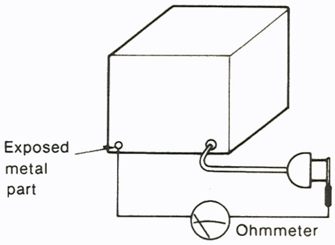
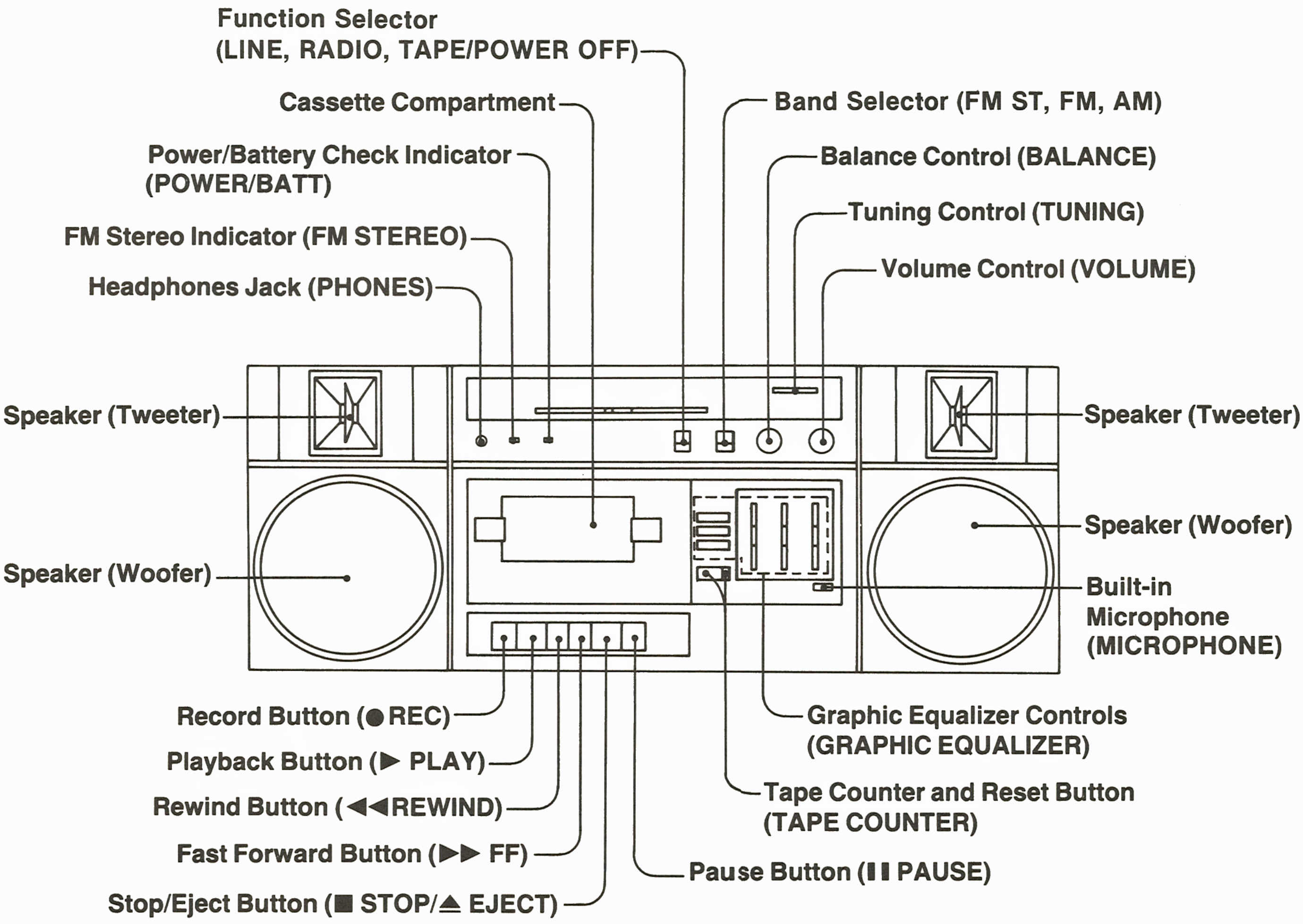
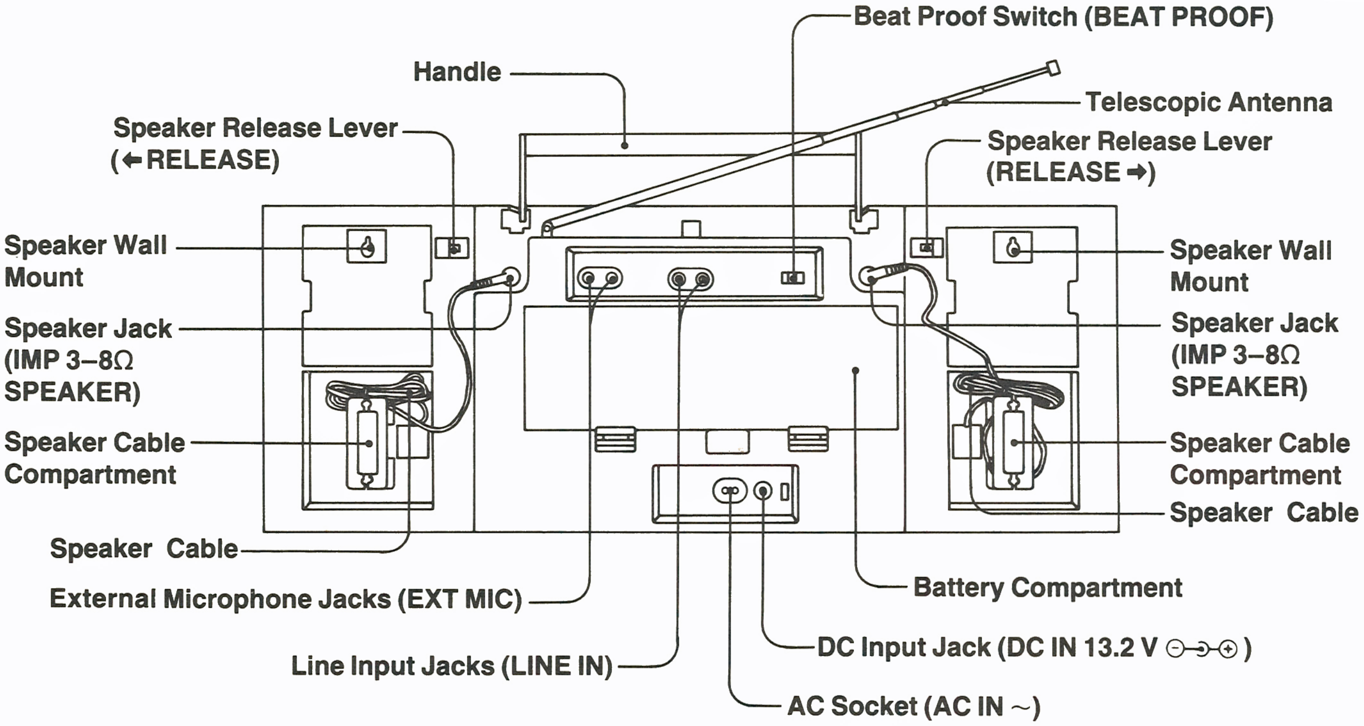

Exposed metal part
Ohmmeter

Fig. 2

Resistance = Approx ∞

LOCATION OF CONTROLS AND COMPONENTS


Function Selector (LINE, RADIO, TAPE/POWER OFF)
Cassette Compartment
Power/Battery Check Indicator (POWER/BATT)
FM Stereo Indicator (FM STEREO)
Headphones Jack (PHONES)
Band Selector (FM ST, FM, AM)
Balance Control (BALANCE)
Tuning Control (TUNING)
Volume Control (VOLUME)
Speaker (Tweeter)
Speaker (Tweeter)
Speaker (Woofer)
Speaker (Woofer)
Built-in Microphone (MICROPHONE)
Record Button (● REC)
Playback Button (▶ PLAY)
Rewind Button (◀◀ REWIND)
Fast Forward Button (▶▶ FF)
Stop/Eject Button (■ STOP/⏏ EJECT)
Graphic Equalizer Controls (GRAPHIC EQUALIZER)
Tape Counter and Reset Button (TAPE COUNTER)
Pause Button (❚❚ PAUSE)


Beat Proof Switch (BEAT PROOF)
Handle
Telescopic Antenna
Speaker Release Lever (← RELEASE)
Speaker Release Lever (RELEASE →)
Speaker Wall Mount
Speaker Wall Mount
Speaker Jack (IMP 3–8Ω SPEAKER)
Speaker Jack (IMP 3–8Ω SPEAKER)
Speaker Cable Compartment
Speaker Cable Compartment
Speaker Cable
Speaker Cable
External Microphone Jacks (EXT MIC)
Battery Compartment
DC Input Jack (DC IN 13.2 V ⊖-●-⊕)
Line Input Jacks (LINE IN)
AC Socket (AC IN ~)

DISASSEMBLY INSTRUCTIONS

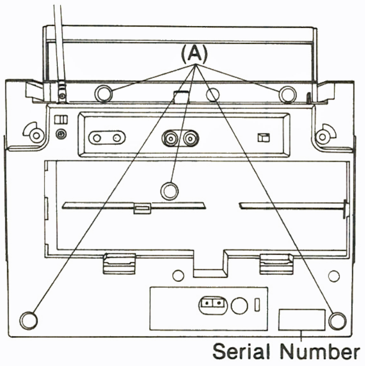

(A)
Serial Number

Fig. 3

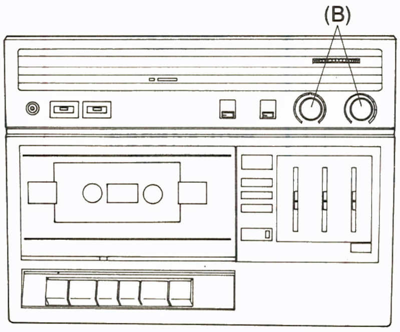


Fig. 4

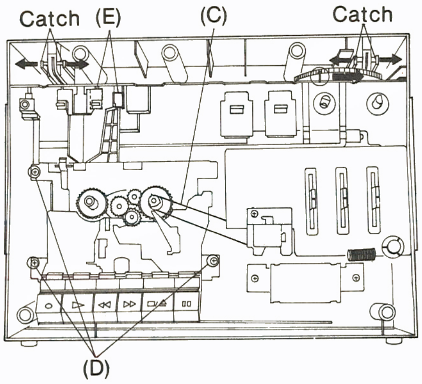

Catch
(E)
(C)
Catch
(D)

Fig. 5

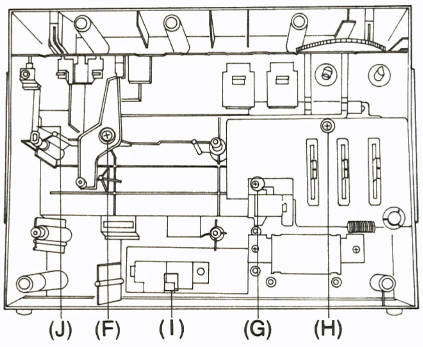


Fig. 6

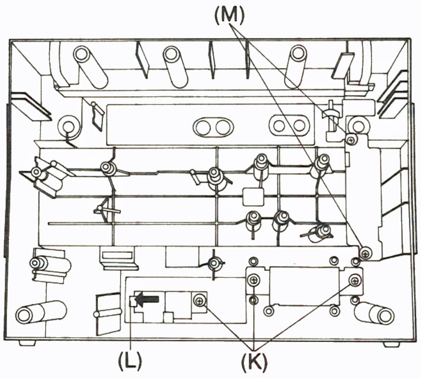


Fig. 7

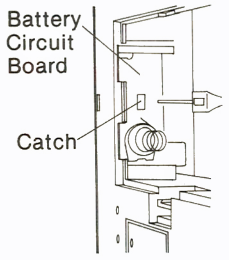

Battery Circuit Board
Catch

Fig. 8

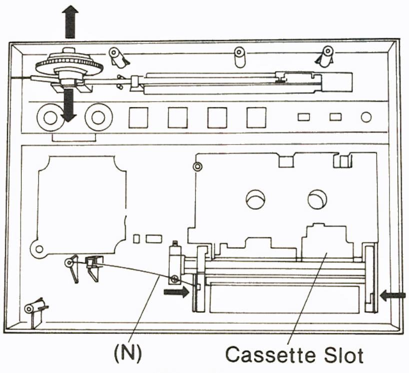

(N)
Cassette Slot

Fig. 9

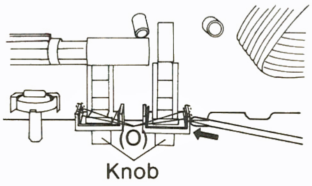


Fig. 10

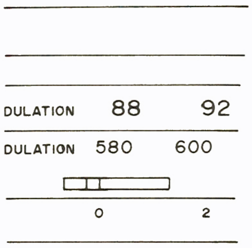

DULATION 88 92
DULATION 580 600
0
2

Fig. 11

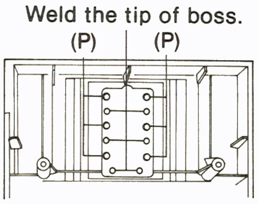

Weld the tip of boss.
(P)
(P)

Fig. 12

Ref. No.	Procedure	Shown in Fig.—.	To remove —.	Remove —.
1	1~4	—	Front cabinet ∗ 1, 2	Remove the battery cover.
2		3		Screw (3×40) .... (A)×5
3		4		Knob .... (B)×2
4		—		Push the eject button.
5	1~7	5	Mechanism	Counter belt .... (C)×1
6		5		Screw (3×12) .... (D)×3
7		5		Socket .... (E)×2
8	1~8	6	R/P lever	Screw (3×10) .... (F)×1
9	1~4, 9	6	Counter	Screw (3×12) .... (G)×1
10	1~13	6	Main circuit board	Screw (3×12) .... (H)×1
11		6		Socket.. (I)×1
12		6		Terminal .... (J)×1
13		—		Pull out the ciruit board.
14	1~17	7	Power source circuit board.	Screw (3×12) .... (K)×3
15		7		Push the catch in the direction of arrow...... (L)×1
16		7		Screw (3×12) .... (M)×2
17		8		Push the catch and remove the battery circuit board.
18	1~4, 18, 19	9	Cassette slot	Spring .... (N)×1
19		9		Push the cassette slot in the direction of arrows.
20	1~13, 20	10	Knob	Push the catch in the direction of arrows.... (O)×4
21	1~4, 21	5	Handle	Push the catch in the direction of arrows.
22	1~4, 22	9	Tuning knob	Push the cabinet in the direction of arrows.
23	23	12	Tweeter ∗3	Cut the tip of boss............................... (P)×6

∗1. Turn the drum gear in the direction of arrow ① as shown in fig. 5.
∗2. Set the dial pointer at the position as shown in fig. 11.
∗3. Weld the tip of bass as shown in fig. 12.

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set volume control to maximum.
2. Set band switch to AM or FM ST.
3. Set balance control to center.
4. Set function selector to radio.
5. Set power source voltage to 12V DC.
6. Output of signal generator should be no higher than necessary to obtain an output reading.
7. Set graphic equalizer to center.

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
	AM-IF ALIGNMENT						
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz. 30% Mod. at 400Hz	Point of non-interference. (on/about 600kHz)	Output meter across voice coil.	T2 (AM 1st IFT) T3 (AM 2nd IFT)	Adjust for maximum output.
	AM-RF ALIGNMENT						
(2)	AM	〃	511kHz	Tuning capacitor fully closed.	〃	L4 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	〃	1,650kHz	Tuning capacitor fully open.	〃	CT4 (AM OSC Trimmer)	〃
(4)	AM	〃	550kHz	Tune to signal.	〃	(∗1) L3 (AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	〃	1,500kHz	〃	〃	CT3 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(∗1) Cement antenna bobbin with wax after completing alignment.

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
	FM-IF ALIGNMENT						
(1)	FM	High side thru. 0.001μF to test point ▼3. Negative side to test point ▼2.	10.7MHz (SWP.)	Point of non-interference. (on/about 90MHz)	Connect vert. amp. of scope to test point ▼6. Negative side to test point ▼5.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 14.)
(2)	FM	〃	〃	〃	〃	T4 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 15.)
	FM-RF ALIGNMENT						
(3)	FM	Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼2.	86.2MHz	Variable capacitor fully closed.	Output meter across voice coil.	L2 (FM OSC Coil)	(∗2) Adjust for maximum output.
(4)	FM		109.3MHz	Variable capacitor fully open.	〃	CT2 (FM OSC Trimmer)	〃
(5)	FM		106MHz	Tune to signal.	〃	CT1 (FM ANT Trimmer)	(∗2) Adjust for maximum output. Repeat steps (3)~(5).

(∗2) Three output responses will be present; proper tuning is the center frequency.

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	90MHz, 60dB	▼7...(+) ▼8...(−)	VR1	19kHz	Adjust VR1, for 19kHz (±150Hz) reading on electronics counter.

■ AUDIO ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8kHz, −20dB)	SP jack	Maximum output.	Azimuth screw (Refer to fig. 17)	Playback mode

■ TAPE SPEED ADJUSTMENT (Refer to fig. 16)

COUNTER	ADJUSTMENT
Connect to speaker jack	1. Playback test tape (QZZCWAT, 3kHz). 2. Adjust VR until 3000Hz±90Hz is read on the counter.

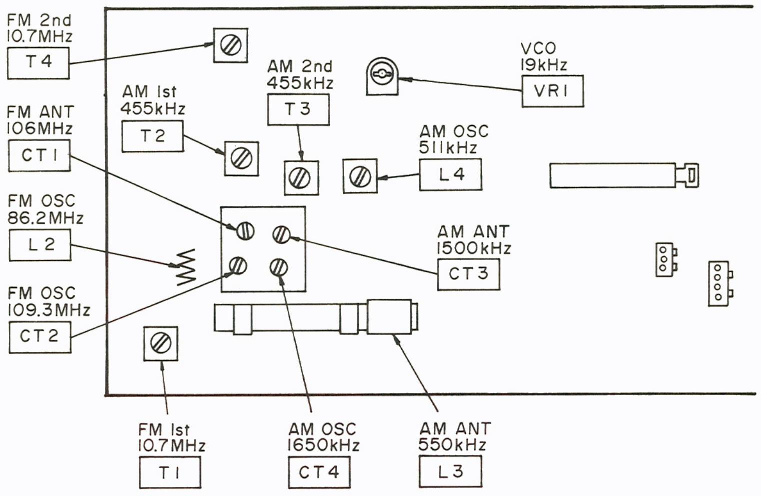

FM 2nd 10.7MHz
T4
FM ANT 106MHz
CT1
FM OSC 86.2MHz
L2
FM OSC 109.3MHz
CT2
AM 1st 455kHz
T2
AM 2nd 455kHz
T3
VCO 19kHz
VR1
AM OSC 511kHz
L4
AM ANT 1500kHz
CT3
FM 1st 10.7MHz
T1
AM OSC 1650kHz
CT4
AM ANT 550kHz
L3

Fig. 13

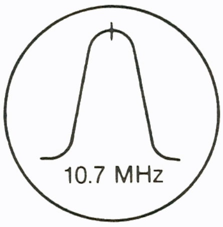


Fig. 14

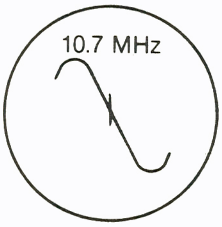


Fig. 15

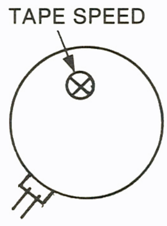


Fig. 16

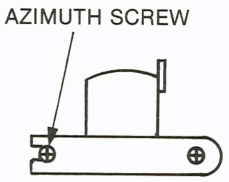

AZIMUTH SCREW

Fig. 17

Be sure to fold at the
▼ mark so that mark is on the outside.

ELECTRICAL PARTS LIST

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)

ERX	2	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Resistor Type	Wattage	Tolerance
ERD: Carbon ERO: Metal Film ERX: Metal Film ERQ: Fuse Type Metal RRD: Carbon (Chip Type)	10 : 1/8W 12 : 1/2W 25 : 1/4W 1 : 1W 18 : 1/8W	J : ±5%

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity

ECEA	50	M	R47
Type	Voltage	Peculiarity	Value (0.47μF)

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Capacitor Type	Voltage		Tolerance
	ECEA Type	Others	
ECEA: Electrolytic ECCD: Ceramic ECKD: Ceramic ECQM: Polypyester ECQP: Polypropylene ECET: Electrolytic ECEA□□□N: Non Polar Electrolytic QCU□: Ceramic (Chip Type) ECUX	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1H : 50V 1V : 35V 50 : 50V 25 : 25V 16 : 16V	2H : 500V DC 1 : 100V DKC : 400V AC	C : ±0.25pF J : ±5% K : ±10% Z : +80%, −20% P : +100%, −0%

REPLACEMENT PARTS LIST

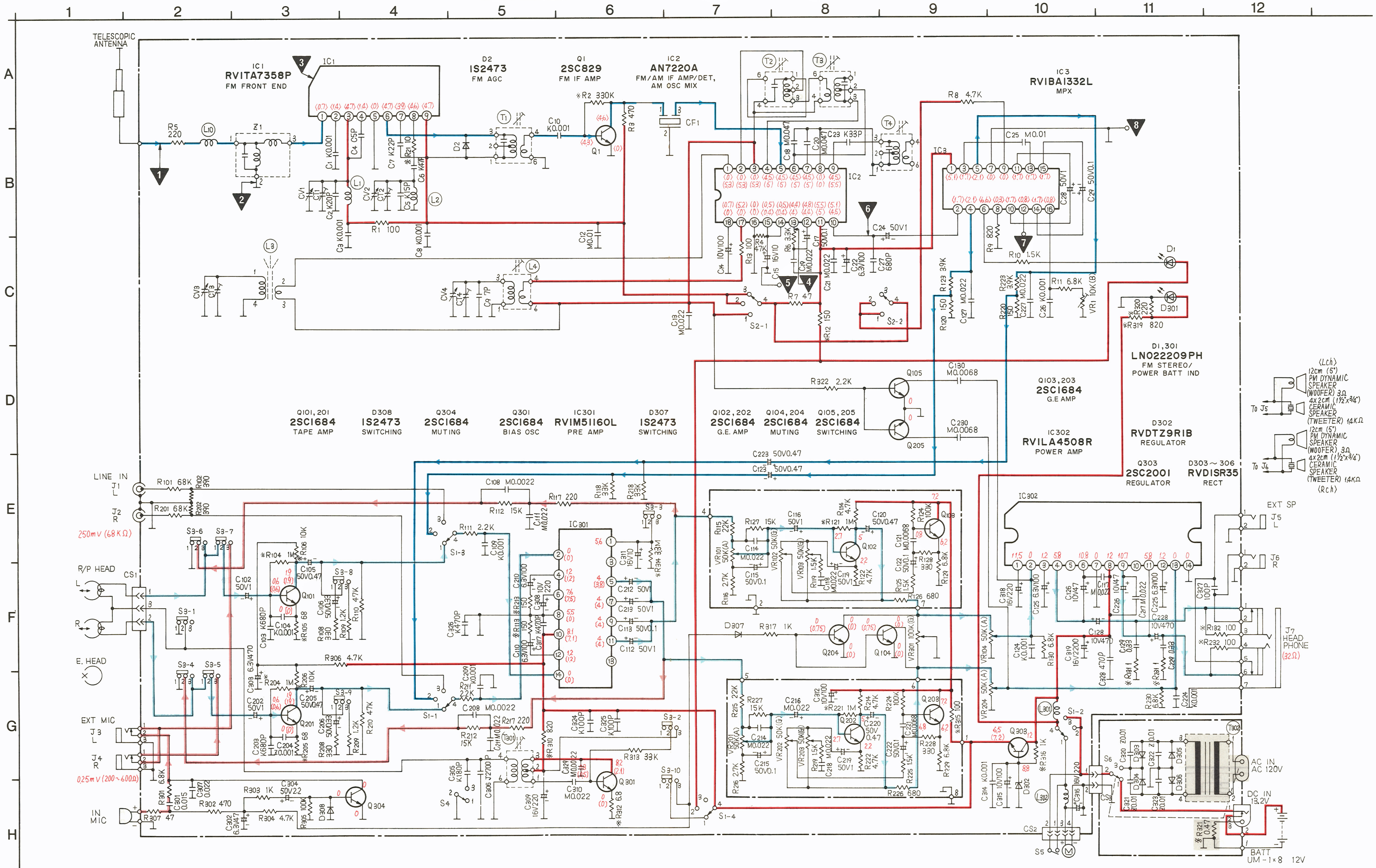
Ref. No.	Part No.
CAPACITORS	
C1	ECBS1H102KB
C2	ECCD1H200JC
C3	ECKD1H102KB
C4	ECCD1H050CC
C5	ECCD1H120KC
C6	ECCD1H470KC
C7	ECCD1H220KC
C8	ECKD1H102KB
C9	ECKD1H070DC
C10	ECBS1H102KB
C12	ECBS1C103MY
C13	ECBT1C223MY
C14	ECEA1AU101
C15	ECEA1CU100
C17	ECEA1HU0R1
C18	ECFT1E473MD
C19	ECFT1E223MD
C20	ECFT1E473MD
C21	ECFT1E223MD
C22	ECEA1AU101
C23	ECCD1H330KC
C24	ECEA1HU010B
C25	ECBS1C103MY
C26	ECQM1H102KV
C27	ECKD1H681KB
C28	ECEA1HU010
C29	ECEA1HU0R1
C102	ECEA1HU010
C103	ECEA1H681KB
C104	ECBS1H102KB
C105	ECEA1HUR47
C106	RCEA1HUR38
C108	ECBS1E222MX
C109	ECBS1H102KB
C110	ECEA1AU101
C111	ECFT1E223MD
C112	ECEA1HU010
C113	ECEA1HU0R1
C114	ECFT1E223MD
C115	ECEA1HU0R1
C116	ECEA1HU010
C117	ECFT1E223MD
C118	ECFT1E223MD
C119	ECEA1HU010
C120	ECEA1HUR47
C121	ECKD1H682MD
C122	ECEA1HU0R1
C123	ECEA1HUR47
C124	ECBS1H102KB
C125	ECEA1AU101
C126	ECEA1AU470
C127	ECFT1E223MD
C128	ECEA1AU471
C129	ECQV1H334JZ
C130	ECKD1H682MD
C202	ECEA1HU010
C203	ECKD1H681KB
C204	ECKD1H102ZF
C205	ECEA1HUR47
C206	RCEA1HUR33
C208	ECBS1E222MX
C209	ECBS1H102KB
C210	ECEA1AU101
C211	ECFT1E223MD
C212	ECEA1HU010
C213	ECEA1HU0R1
C214	ECFT1E223MD
C215	ECEA1HU0R1
C216	ECEA1HU010
C217	ECFT1E223MD
C218	ECFT1E223MD
C219	ECEA1HU010
C220	ECEA1HUR47
C221	ECKD1H682MD
C222	ECEA1HU0R1
C223	ECEA1HUR47
C224	ECBS1H102KB
C225	ECEA1AU101
C226	ECEA1AU470
C227	ECFT1E223MD
C228	ECEA1AU471
C229	ECQV1H334JZ
C230	ECKD1H682MD
C301	ECFT1E153MD
C302	ECEA0JU470
C303	ECEA1AU471
C304	ECEA1HU2R2
C305	ECCD1H181K
C306	ECQP2A272JZ
C307	ECFT1E223MD
C308	ECEA1AU221
C309	ECEA1CU221B
C310	ECFT1E223MD
C311	ECEA1CU100
C312	ECEA1AU101
C314	ECBS1H102KB
C315	ECEA1AU101
C316	ECEA1CU221
C317	ECBS1H471KB
C318	ECEA1CU221
C319	ECEA1CU222
C320	ECKD1H103ZF
C321	ECKD1H103ZF
C322	ECKD1H103ZF
C323	ECKD1H103ZF
C324	ECCD1H101K
C325	ECBS1H101JL
C326	ECBS1H471KB
C327	ECBS1H101JL
C328	ECBS1H471KB
C329	ECBS1H102KB
RESISTORS	
R2	ERD25TJ334
R12	ERD25FJ151
R21	ERD25FJ100
R104	ERD25TJ105
R105	ERD25FJ680
R106	ERD25FJ103
R113	ERD25FJ151
R121	ERD25TJ105
R131	ERD25FJ1R0
R132	ERD25FJ101
R204	ERD25TJ105
R205	ERD25FJ680
R206	ERD25FJ103
R213	ERD25FJ151
R221	ERD25TJ105
R231	ERD25FJ1R0
R232	ERD25FJ101
R310	ERD25FJ821
R312	ERD25FJ6R8
R314	ERD25TJ335
R315	ERD25FJ101
R316	ERD25FJ102
R319	ERD25FJ821
R320	ERD25FJ221
R321	ERX12ANJR47 ⚠

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES		
IC1	RVITA7358P	IC
IC2	AN7220A	IC
IC3	RVIBA1332L	IC
IC301	RVIM51160L	IC
IC302	RVILA4508R	IC
Q1	2SC829B	Transistor (Si)
Q101, 201	2SC1684HS	Transistor (Si)
Q102, 103, 202, 203, 304	2SC1684Q	Transistor (Si)
Q104, 105, 204, 205	2SC1685Q	Transistor (Si)
Q301	2SC1685Q	Transistor (Si)
Q303	2SC2001L1	Transistor (Si)
D1, 301	LN022209PH	Diode (Ga)
D2, 307, 308	MA161	Diode (Si)
D302	RVDTZ9R1B	Diode (Si)
D303, 304, 305, 306	RVD1SR35	Diode (Si)
COILS AND TRANSFORMERS		
L2	RLD4Y44	Oscillator Coil, FM
L3	RLF2V59	Antenna Coil, AM
L4	RL02B105	Oscillator Coil, AM
T1	RLI4B153	IFT, FM
T2	RLI2B207	IFT, AM
T3	RLI2B217	IFT, AM
T4	RLI4B153	IFT, FM
T301	RL09B17	Bias Oscillator
T302 ⚠	RLT5K4C1A	Power Transformer
VARIABLE CAPACITORS		
VC1, 2, 3, 4	RCV4LC2VK	Tuning Capacitor w/Trimmer Capacitor
VARIABLE RESISTORS		
VR1	QVNB3A00B103	Variable Resistor
VR101	EWANABC15A54	Variable Resistor
VR102, 103	EWANACC15G54	Variable Resistor
VR104	EWCUNA016A54	Variable Resistor
VR301	EWHONAF15G15	Variable Resistor

Notes:

1. S1-1~S1-4: Function selector in "TAPE, POWER/OFF" position.
   (1...TAPE, POWER/OFF, 2...RADIO, 3...LINE)
2. S2-1, S2-2: Band selector in "FM ST" position.
   (1...FM ST, 2...FM, 3...AM)
3. S3-1~S3-10: Record/Playback switch in "Playback" position.
   (1...Playback, 3...Record)
4. S4: Beat proof switch.
5. S5: Motor switch.
6. S6: AC/DC selector in "DC" position.
7. VR1: VCO adjustment VR.
   VR101~103, 201~203: Graphic equlizer VR.
   VR104, 204: Volume control VR.
   VR301: Balance control VR.
8. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   < >...FM, ( )...AM, [ ]...Record
9. Battery current: No signal 60mA
   Maximum output (radio) 1.3A
   Maximum output (tape) 1.3A
10. For resistors, using printed types except those with ∗ mark.
11. Important safety notice
    The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.

SCHEMATIC DIAGRAM MODEL RX-C39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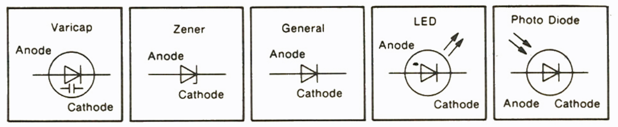
7
8
9
10
11
12
A
B
C
D
E
F
G
H
TELESCOPIC ANTENNA
IC1
RVITA7358P
FM FRONT END
D2
1S2473
FM AGC
Q1
2SC829
FM IF AMP
IC2
AN7220A
FM/AM IF AMP/DET, AM OSC MIX
IC3
RVIBA1332L
MPX
CF1
R2 330K
R3 470
R5 220
R8 4.7K
R1 100
C10 K0.001
C25 M0.01
C24 50V1
R10 1.5K
R11 6.8K
VR1 10K(B)
R319 820
D1
D301
D1,301
LN022209PH
FM STEREO/ POWER BATT IND
Q103,203
2SC1684
G.E AMP
Q101, 201
2SC1684
TAPE AMP
D308
1S2473
SWITCHING
Q304
2SC1684
MUTING
Q301
2SC1684
BIAS OSC
IC301
RVIM5116OL
PRE AMP
D307
1S2473
SWITCHING
Q102,202
2SC1684
G.E. AMP
Q104,204
2SC1684
MUTING
Q105,205
2SC1684
SWITCHING
IC302
RVILA4508R
POWER AMP
D302
RVDTZ9RIB
REGULATOR
Q303
2SC2001
REGULATOR
D303～306
RVDISR35
RECT
R322 2.2K
C130 M0.0068
C230 M0.0068
C223 50V0.47
C123 50V0.47
Q105
Q205
LINE IN
J1 L
J2 R
250mV (68KΩ)
R101 68K
R201 68K
R/P HEAD
CS1
E. HEAD
EXT MIC
J3 L
J4 R
0.25mV (200～600Ω)
IN MIC
S3-6
S3-7
S3-8
S3-1
S3-4
S3-5
S3-9
S3-2
S3-3
S3-10
S1-1
S1-2
S1-3
S1-4
S2-1
S2-2
S4
S5
S6
Q101
Q201
Q304
Q301
Q303
Q102
Q202
Q103
Q203
Q104
Q204
R306 4.7K
R217 220
R117 220
R111 2.2K
R112 15K
C108 M0.0022
C208 M0.0022
R313 33K
R303 1K
R302 470
R304 4.7K
R307 47
R317 1K
EXT SP
J5 L
J6 R
J7 HEAD PHONE (32Ω)
R132 100
R232 100
(Lch)
12cm (5") PM DYNAMIC SPEAKER (WOOFER) 3Ω
4x2cm (1½"x¾") CERAMIC SPEAKER (TWEETER) 1.4KΩ
(Rch)
To J5
To J6
T302
AC IN AC 120V
DC IN 13.2V
BATT UM-1×8 12V
R321 0.47
CS2
L301
L302
CS3
Varicap
Anode
Cathode
Zener
General
LED
Photo Diode


Varicap
Anode
Cathode
Zener
Anode
Cathode
General
Anode
Cathode
LED
Anode
Cathode
Photo Diode
Anode
Cathode

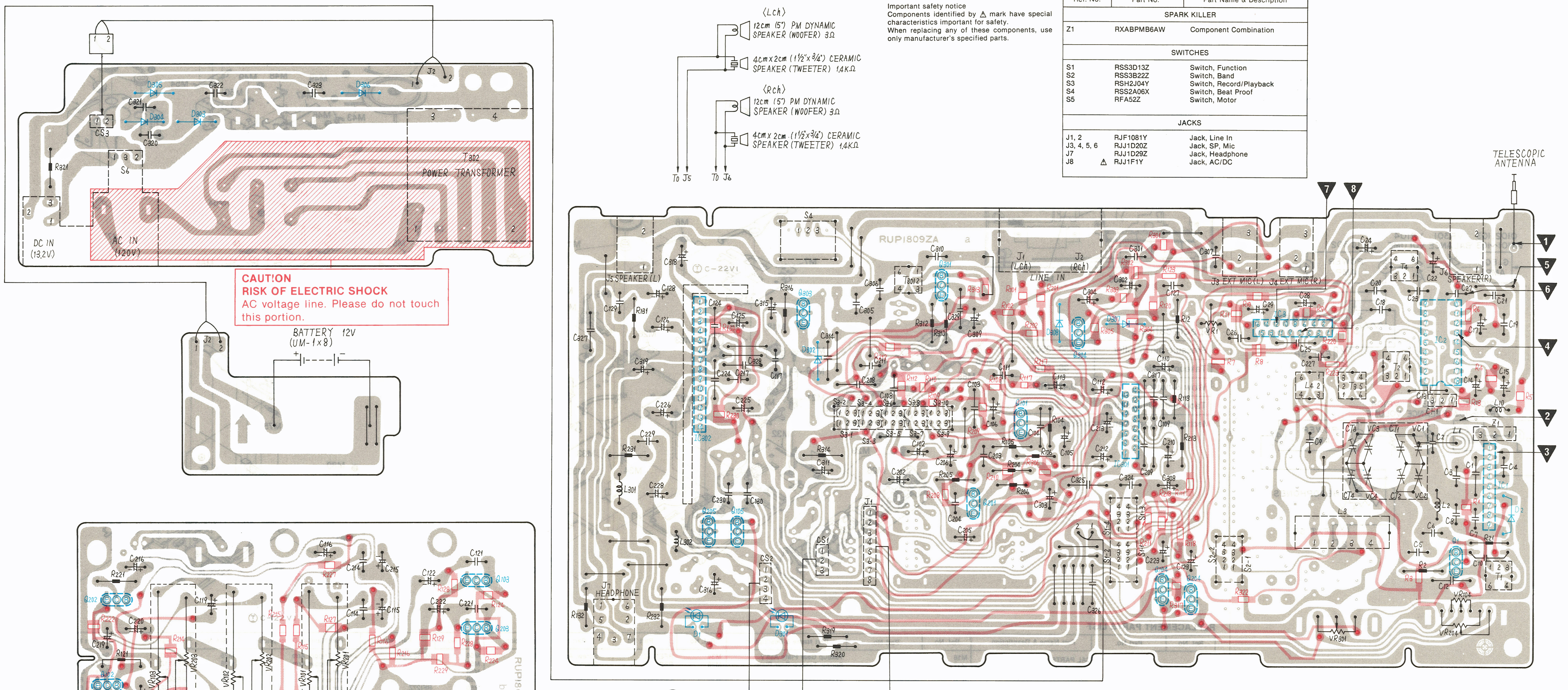
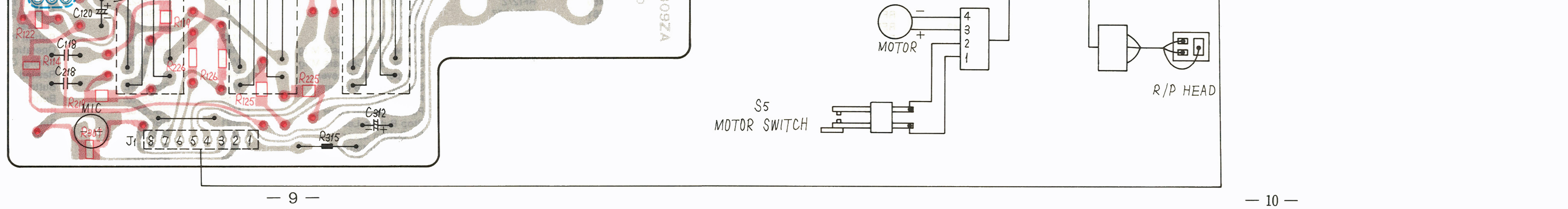
🟥 +(B) Voltage Line
🟦 Radio (FM) Signal Line
Tape (PLAYBACK) Signal Line
Tape (RECORD) Signal Line

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RX-C39

REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

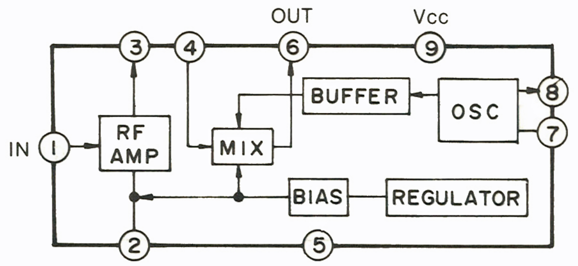
Ref. No.	Part No.	Part Name & Description
SPARK KILLER		
Z1	RXABPMB6AW	Component Combination
SWITCHES		
S1	RSS3D13Z	Switch, Function
S2	RSS3B22Z	Switch, Band
S3	RSH2J04Y	Switch, Record/Playback
S4	RSS2A06X	Switch, Beat Proof
S5	RFA52Z	Switch, Motor
JACKS		
J1, 2	RJF1081Y	Jack, Line In
J3, 4, 5, 6	RJJ1D20Z	Jack, SP, Mic
J7	RJJ1D29Z	Jack, Headphone
J8	⚠ RJJ1F1Y	Jack, AC/DC

(Lch)
12cm (5") PM DYNAMIC SPEAKER (WOOFER) 3Ω
4cm x 2cm (1½" x ¾") CERAMIC SPEAKER (TWEETER) 1.4KΩ
(Rch)
12cm (5") PM DYNAMIC SPEAKER (WOOFER) 3Ω
4cm x 2cm (1½" x ¾") CERAMIC SPEAKER (TWEETER) 1.4KΩ
To J5
To J6
T302
POWER TRANSFORMER
DC IN (13.2V)
AC IN (120V)
CS3
S6
J2
R321
C321
C320
C322
C329
D305
D306
D303
D304
BATTERY 12V (UM-1×8)
TELESCOPIC ANTENNA
RUP1809ZA
S4
J1 (Lch)
J2 (Rch)
LINE IN
J3 EXT MIC(L)
J4 EXT MIC(R)
J5 SPEAKER(L)
J6 SPEAKER(R)
J7 HEADPHONE
IC1
IC2
IC3
IC301
IC302
T301
T1
T2
T4
L301
L302
L3
VR1
VR301
VR204
VC1
VC2
VC3
VC4
CS1
CS2
MOTOR
S5 MOTOR SWITCH
R/P HEAD
MIC
RUP1809ZA b
VR101
VR102
VR201
VR202
VR203
VR103
1
2
3
4
5
6
7
8

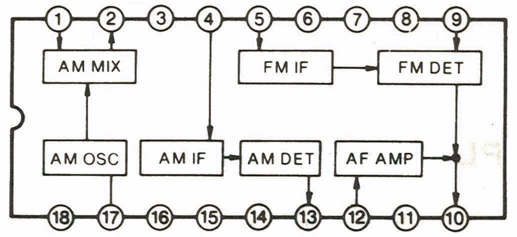
CAUTION
RISK OF ELECTRIC SHOCK
AC voltage line. Please do not touch this portion.

IC1 RVITA7358P



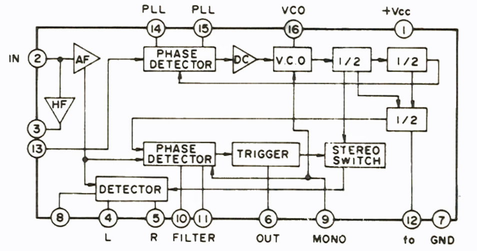
OUT
Vcc
IN
RF AMP
MIX
BUFFER
OSC
BIAS
REGULATOR
1
2
3
4
5
6
7
8
9

IC2 AN7220A



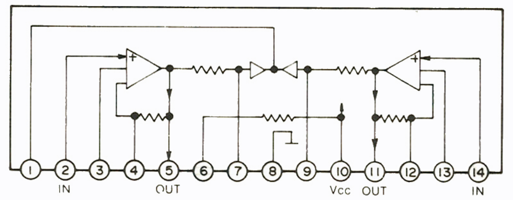
AM MIX
FM IF
FM DET
AM OSC
AM IF
AM DET
AF AMP
1
2
3
4
5
6
7
8
9
18
17
16
15
14
13
12
11
10

IC3 RVIBA1332L



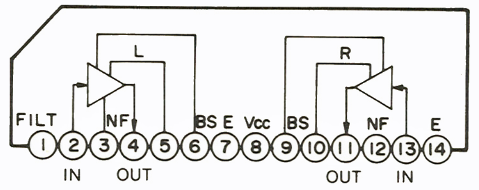
PLL
PLL
VCO
+Vcc
IN
AF
HF
PHASE DETECTOR
DC
V.C.O
1/2
1/2
1/2
PHASE DETECTOR
TRIGGER
STEREO SWITCH
DETECTOR
L
R
FILTER
OUT
MONO
fo
GND

IC301 RVIM51160L

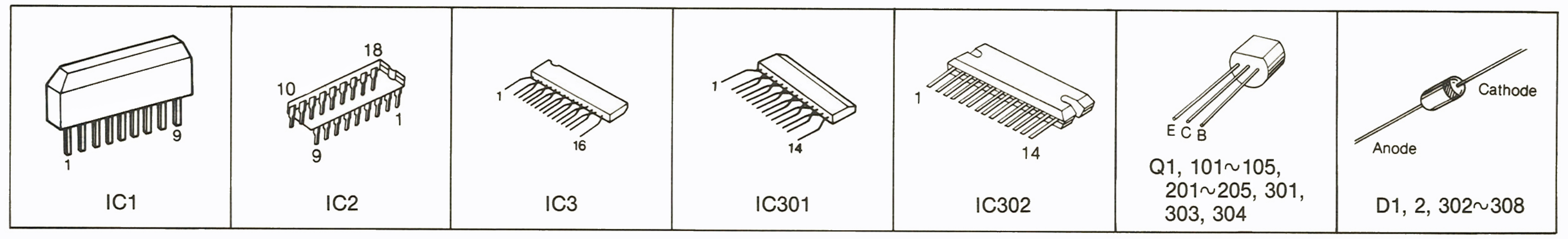


1
2
3
4
5
6
7
8
9
10
11
12
13
14
IN
OUT
Vcc
OUT
IN

IC302 RVILA4508R



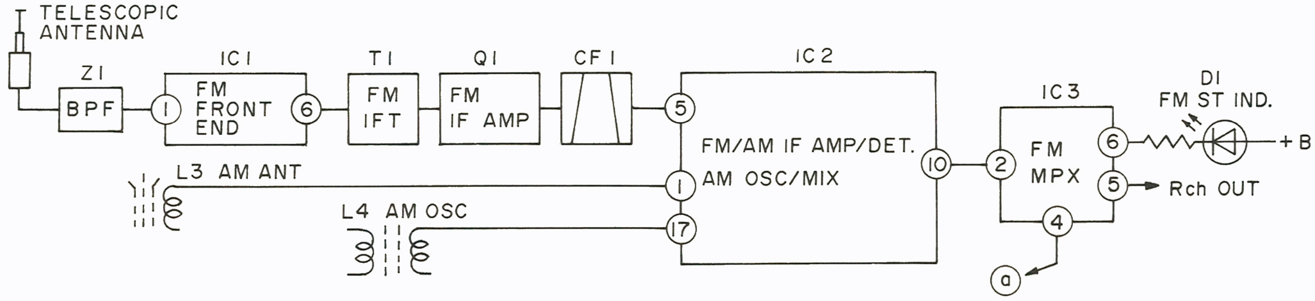
L
R
FILT
NF
BS E Vcc
BS
NF
E
IN
OUT
OUT
IN



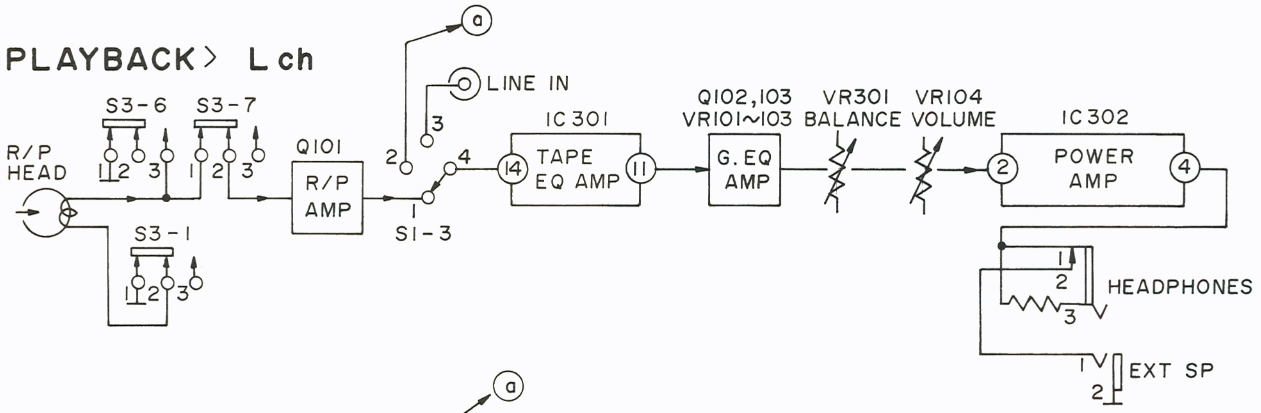
1
9
IC1
10
18
9
1
IC2
1
16
IC3
1
14
IC301
1
14
IC302
E C B
Q1, 101~105, 201~205, 301, 303, 304
Cathode
Anode
D1, 2, 302~308

BLOCK DIAGRAM

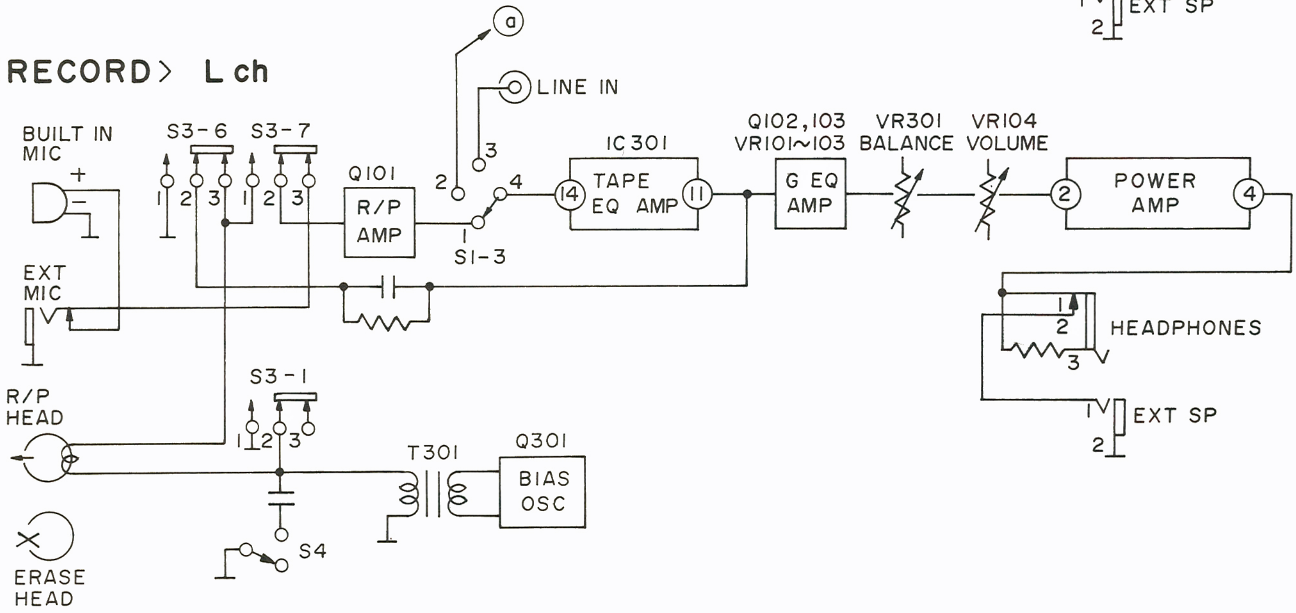
⟨RADIO⟩


TELESCOPIC
ANTENNA
Z1
BPF
IC1
FM FRONT END
T1
FM IFT
Q1
FM IF AMP
CF1
IC2
FM/AM IF AMP/DET.
AM OSC/MIX
L3 AM ANT
L4 AM OSC
IC3
FM MPX
D1
FM ST IND.
+B
Rch OUT
a

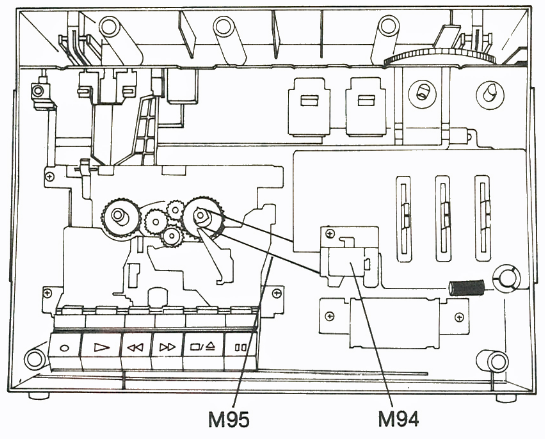
⟨PLAYBACK⟩ Lch

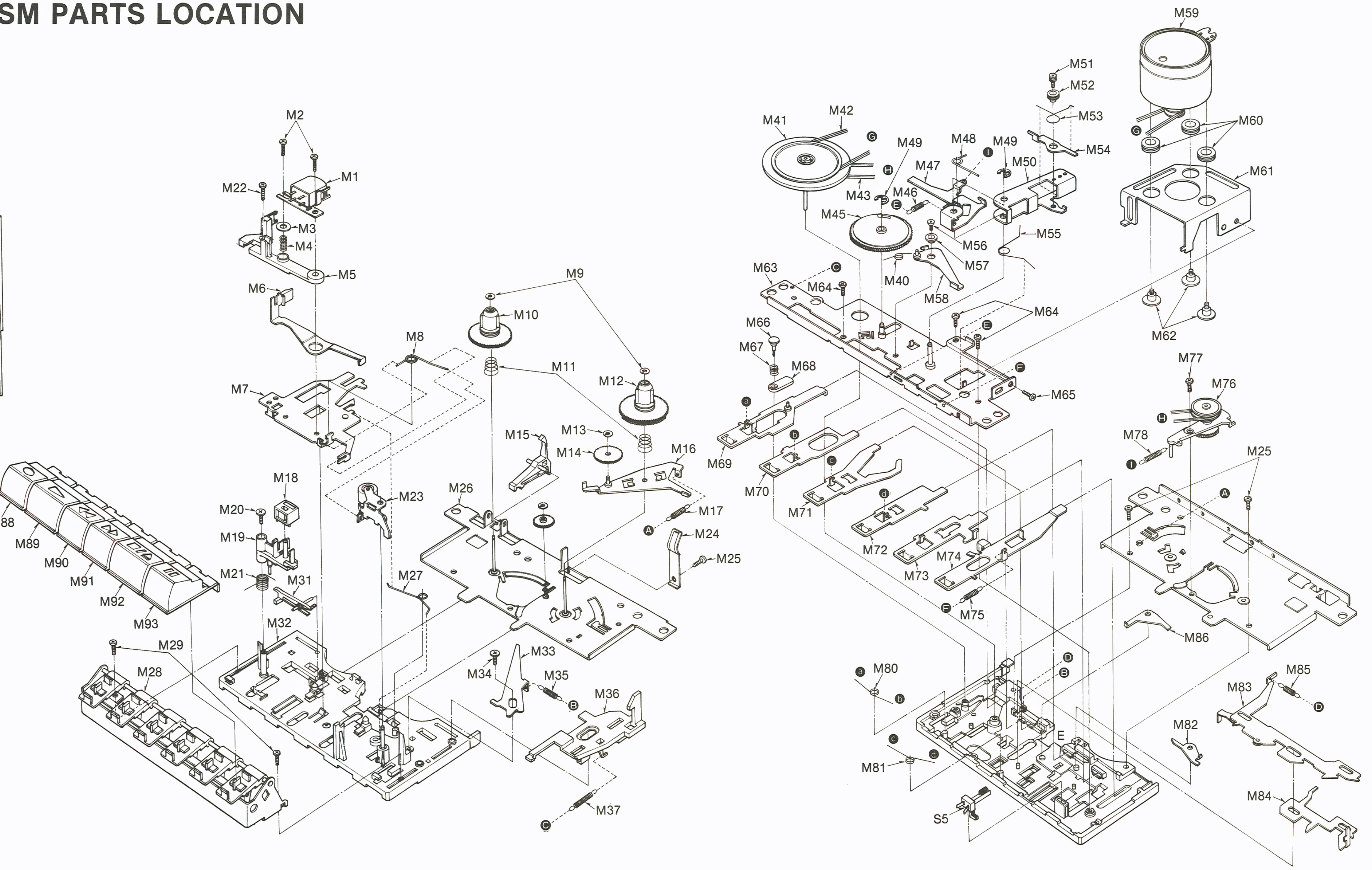

a
LINE IN
S3-6
S3-7
S3-1
R/P
HEAD
Q101
R/P AMP
S1-3
IC301
TAPE EQ AMP
Q102,103
VR101~103
G. EQ AMP
VR301
BALANCE
VR104
VOLUME
IC302
POWER AMP
HEADPHONES
EXT SP

⟨RECORD⟩ Lch


a
LINE IN
BUILT IN
MIC
EXT
MIC
S3-6
S3-7
S3-1
R/P
HEAD
ERASE
HEAD
Q101
R/P AMP
S1-3
IC301
TAPE EQ AMP
Q102,103
VR101~103
G EQ AMP
VR301
BALANCE
VR104
VOLUME
POWER AMP
HEADPHONES
EXT SP
T301
Q301
BIAS OSC
S4

MECHANISM PARTS LOCATION




M1
M2
M3
M4
M5
M6
M7
M8
M9
M10
M11
M12
M13
M14
M15
M16
M17
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M74
M75
M76
M77
M78
M80
M81
M82
M83
M84
M85
M86
M88
M89
M90
M91
M92
M93
S5
E

Specifications

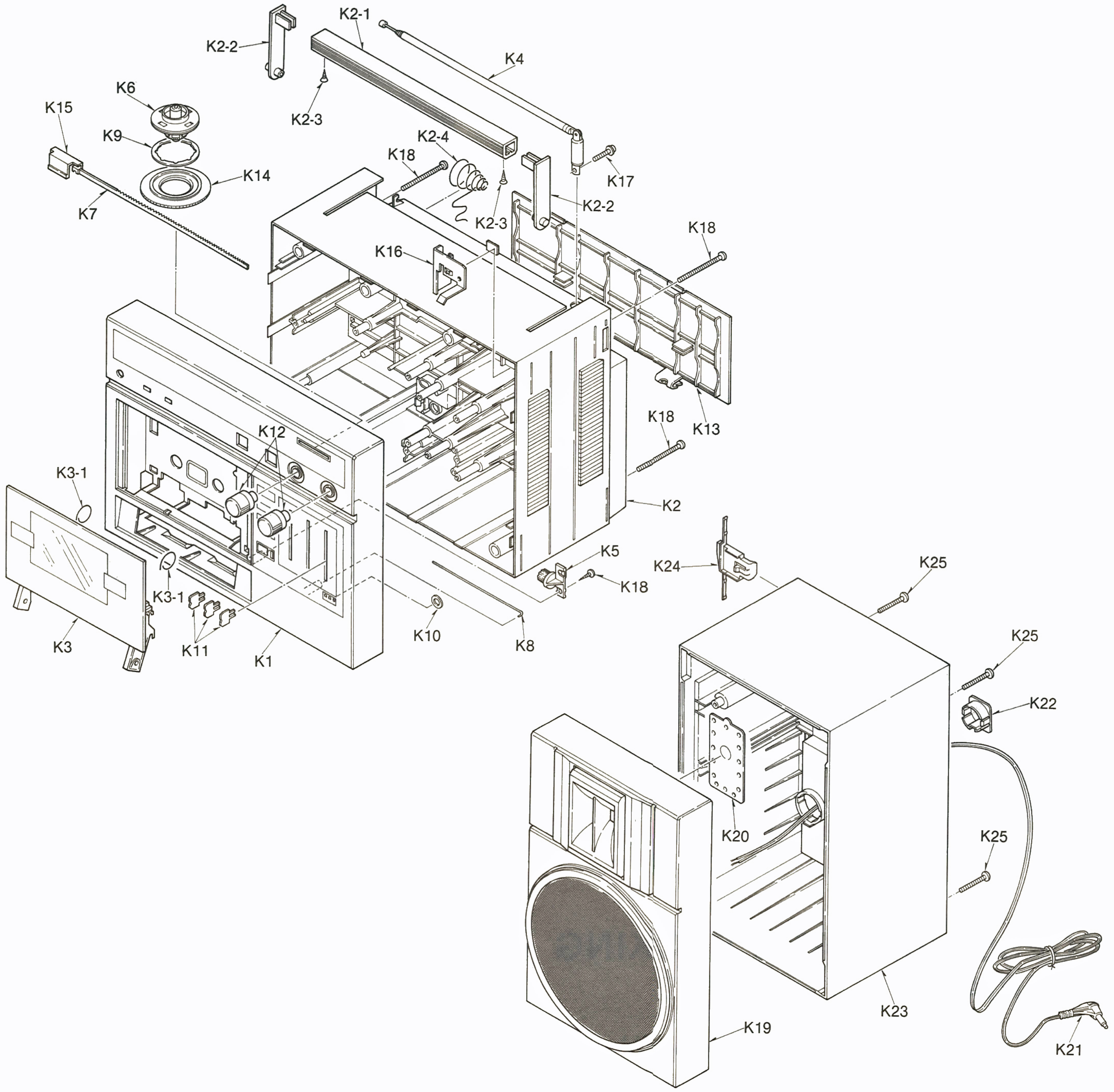
Pressure pinch roller	250～350 gr
Takeup tension	36～60 gr
Wow & flutter	0.4% (RMS)
Tape speed fluctuation	±3%

Mechanism Operation: Auto Stop.

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
M1	RJH2E8Z	Head, Record/Playback
M2	XSN2+7	Screw, Head M'tg
M3	RFN141Z	Washer, Head M'tg
M4	RFS447Z	Spring, Head Adjust
M5	RFU39Z	Head Base
M6	RFY394Z	Detector Arm Ass'y
M7	RFU42Z	Head Panel
M8	RFS448Z	Spring, Pinch Roller
M9	RFN142Z	Washer
M10	RFJ43Z	Supply Reel Table Ass'y
M11	RFS449Z	Spring, Back Tension
M12	RFJ44Z	Takeup Reel Table Ass'y
M13	RFN143Z	Washer
M14	RFG62Z	FF Gear
M15	SMQ4778	Safety Lever, Record
M16	RFG71Z	Takeup Gear Plate Ass'y
M17	RFS450Z	Spring, Takeup Gear Plate
M18	RFH9Z	Erase Head
M19	RFY397Z	Erase Head Base
M20	XSN3+6	Screw, Erase Head Base M'tg
M21	RFS451Z	Spring, Erase Head Base
M22	XSN2+6	Screw, Head Base M'tg
M23	RFR26Z	Pinch Roller Ass'y
M24	RFS467Z	Cassette Pressure
M25	XTN2+35FN	Screw, Cassette Pressure M'tg
M26	RFU40Z	Reel Board Ass'y
M27	RFS452Z	Spring, Head Panel
M28	RFY430Z	Button Frame Ass'y
M29	XQN2+7	Screw, Button Frame M'tg
M31	RFX100Z	Play Detector Lever
M32	RFU41Z	Base Plate
M33	RFY414Z	Auto Lever
M34	RFE146Z	Screw, Auto Lever M'tg
M35	RFS453Z	Spring, Auto Lever
M36	RFY415Z	Slide Lever
M37	RFS454Z	Spring, Slide Lever Ass'y
M40	RFS455Z	Spring
M41	RFF32Z	Flywheel Ass'y
M42	RFB46Z	Main Belt
M43	RFB47Z	RF Belt
M45	RFG72Z	Middle Gear
M46	RFS465Z	Spring, Rec Oeration Arm
M47	RFY416Z	Rec Operation Arm
M48	RFS456Z	Spring, Recording
M49	XUC2FT	E Ring
M50	RFY417Z	Rec Operation Arm
M51	XTN2+4FN	Screw, Rec Sensor
M52	RFX103Z	Collar, Rec Sensor
M53	RFS457Z	Spring, Rec Sensor
M54	RFY418Z	Rec Sensor
M55	RFS458Z	Spring, Rec Operation Arm
M56	XQS2+25	Screw, Trigger Arm
M57	RFZ104Z	Collar, Trigger Arm
M58	RFY419Z	Trigger Arm
M59	RFM32Z	Motor Ass'y
M60	RFI27Z	Rubber, Motor
M61	RFD186Z	Bracket, Motor
M62	SMQ4918	Screw, Motor
M63	RFU43Z	Sub Chassis Ass'y
M64	XSN4+4	Screw, Sub Chassis M'tg
M65	XSN2+4	Screw, Sub Chassis M'tg
M66	RFX102Z	Stopper, Pause Lever
M67	RFS459Z	Spring, Pause Lever
M68	RFY420Z	Pause, Lever
M69	RFY421Z	Pause, Button Lever
M70	RFY422Z	Stop Button Lever
M71	RFY423Z	FF Button Lever
M72	RFY424Z	Rewind Button Lever
M73	RFY425Z	Play Button Lever
M74	RFY426Z	Record Button Lever
M75	RFS460Z	Spring, Record Button Lever
M76	RFK11Z	RF Crutch Ass'y
M77	RFE172Z	Screw, Collar M'tg
M78	RFS461Z	Spring, Pully Arm
M80	RFS462Z	Spring, Button Lever
M81	RFS463Z	Spring, Button Lever
M82	RFX101Z	Stopper
M83	RFY429Z	Button Plate
M84	RFY427Z	Operation Plate Switch
M85	RFS466Z	Spring, Operation Plate
M86	RFY428Z	Rewind Lever
M88	RBC574Z	Button, Record
M89	RBC575Z	Button, Play
M90	RBC576Z	Button, Rewind
M91	RBC577Z	Button, FF
M92	RBC578Z	Button, Stop
M93	RBC579Z	Button, Pause
M94	RSE107Z	Counter
M95	QDB0265	Belt, Counter

CABINET PARTS LOCATION


K2-1
K2-2
K4
K6
K15
K2-3
K9
K2-4
K18
K17
K14
K7
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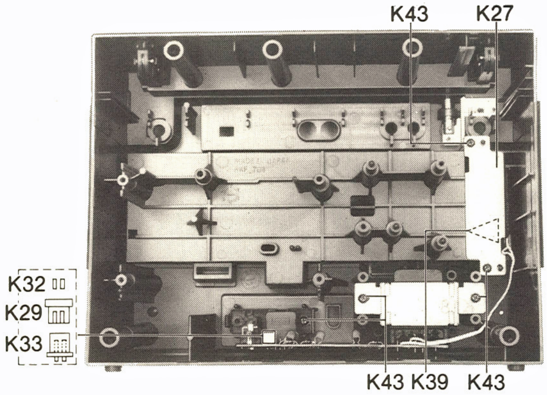
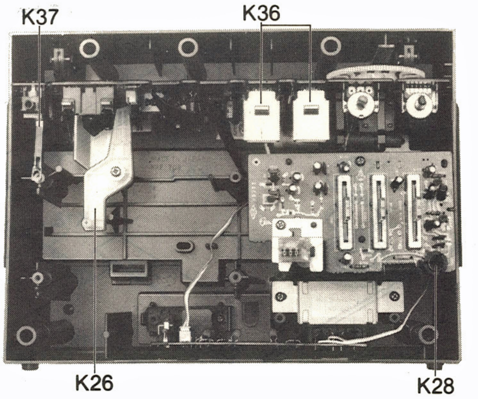
K2-2
K18
K16
K18
K13
K12
K3-1
K2
K5
K24
K25
K3-1
K18
K10
K8
K3
K11
K1
K25
K22
K20
K25
K23
K19
K21

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
	CABINET PARTS	
K1	RYM1XC39M8	Front Cabinet Ass'y
K2	RYFXC39M7	Rear Cabinet Ass'y
K2-1	RKX303Z	Handle
K2-2	RKX255Y	Arm
K2-3	XTC3 + 8CFN	Screw, Handle M'tg
K2-4	RJC936Z	Terminal, Battery
K3	RYQXC39M	Cassette Slot Ass'y
K3-1	RUS527Z	Spring, Cassette Tape
K4	XEARR175FA	Telescopic Antenna
K5	RDG5728Z	Gear, Cassette Slot
K6	RDG5738Z	Gear, Tuning Knob
K7	RDE1427Z	Rack, Pointer
K8	RUS528Z	Spring, Cassette Slot
K9	RUS548Z	Spring, Gear
K10	RHG728Z	Cushion, Microphone
K11	RBD265Z	Knob, Graphic Equalizer
K12	RBN372V	Knob, Balance, Volume
K13	RKK273Z	Cover, Battery Compartment
K14	RBT182Z	Knob, Tuning
K15	RDP255Z	Pointer, Dial
K16	RJT863Z	Terminal, Telescopic Antenna
K17	XYN3 + F15FY	Screw, Telescopic Antenna M'tg
K18	XTV3 + 40G	Screw, Cabinet M'tg
K19	RYM2XC39M8	Speaker Box Ass'y
K20	EFBS21A41HA2	Speaker, Tweeter
K21	RJP0F2Y	Cord, Speaker
K22	RHR171Z	Bushing
K23	RKF709Y	Speaker Box Cover, Left
K23	RKF709Z	Speaker Box Cover, Right
K24	RGE76Y	Stopper, Left
K24	RGE76Z	Stopper, Right
K25	XTV3 + 18G	Screw, Cover M'tg

ELECTRICAL PARTS LOCATION


K43
K27
K32
K29
K33
K43 K39 K43


K37
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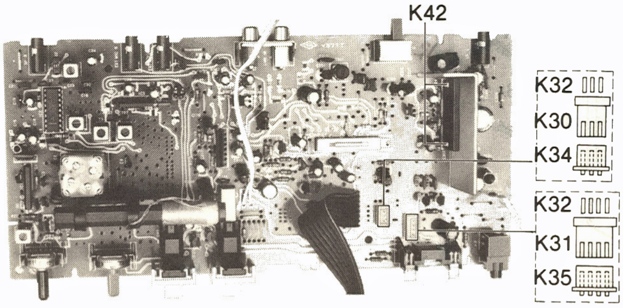
K26
K28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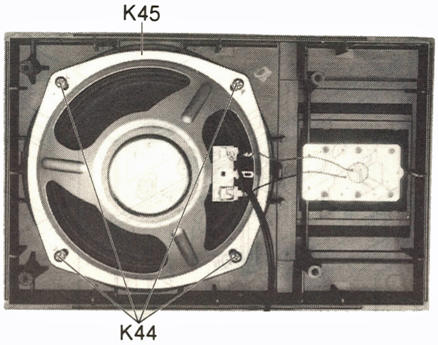
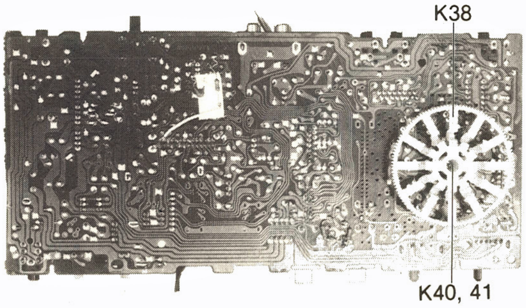
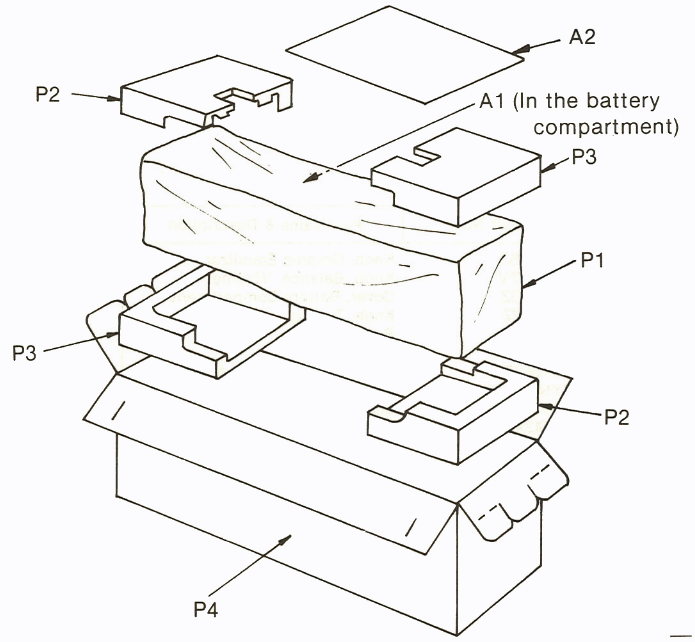
K35





Ref. No.	Part No.	Part Name & Description
K26	RUB302Z	R/P Lever
K27	RUV715Z	Cover, Battery
K28	RJM154Z	Microphone
K29	RJS2L3Z	Socket, 2 Pin
K30	RJS3L3Z	Socket, 3 Pin
K31	RJS4L3Z	Socket, 4 Pin
K32	RJT707Z	Terminal, Socket
K33	RJP2G4Y	Plug, CS3, 2 Pin
K34	RJP3G4Y	Plug, CS1, 3 Pin
K35	RJP4G4Y	Plug, CS2, 4 Pin
K36	RBD264Z	Knob, Band, Function
K37	RJT864Z	Terminal, Earth
K38	RDG5739Z	Drum Gear
K39	RJC511Z	Spring, Battery – Side
K40	XSN26 + 6	Screw, Drum Gear M'tg
K41	XWA26B	Washer, Drum Gear M'tg
K42	XTV3 + 8F	Screw, Heat Sink M'tg
K43	XTV3 + 12G	Screw, Circuit Board M'tg
K44	XTV3 + 10G	Screw, Woofer M'tg
K45	EAS12P233SF	Speaker, Woofer

ACCESSORIES AND PACKING MATERIALS


A2
P2
A1 (In the battery compartment)
P3
P1
P3
P2
P4

REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.		Part No.	Part Name & Description
		ACCESSORIES	
A1	⚠	RJA22Y	Power Cord, AC
A2	[M]	RQX4453Z	Instruction Book
A2	[C]	RQX4468Z	Instruction Book
		PACKINGS	
P1		RPP624Z	Polyethylene Cover
P2		RPN4481Z	Pad
P3		RPN4487Z	Pad
P4	[M]	RPK1845Z	Gift Box
P4	[C]	RPK1867Z	Gift Box

GAD
K, S
MC
Printed in Japan

ORDER NO. GAD84075448A8

Service Manual

Radio Cassette

RX-C39

This is the Service Manual for the following areas.

MZ ...For Audio Club.

- Please use this manual together with the service manual for model No. RX-C39 order No. GAD84055417C1.
- This Service Manual indicates the main differences between; Original RX-C39 and RX-C39 for Audio Club.

CHANGES

■ SPECIFICATIONS

Power Requirement: AC 120V, 60Hz → AC 110~115V/115~127V/
220~210V/230~250V
50/60Hz

■ PARTS COMPARISON TABLE

NOTES: 1. Important safety notiec.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
2. The S mark indicates service standard parts and may differ from production parts.

Ref. NO.	Description	Part Number		Remarks
		RX-C39 [M][C]	RX-C39[MZ]	
C316, 318	Electrolytic, 25V, 220μF	ECEA1CU221	ECEA1EU221	
C319	Electrolytic, 25V, 2200μF	ECEA1CU222	ECEA1EU222	
T302	Power Transformer	RLT5K4C1A	RLT5L4X1A	⚠
S7	Voltage Selector Switch	———	RSR4A08Y	⚠Added
M18	Erase Head	RFH9Z	RJH5S1Z	
M59	Motor Ass'y	RFM32Z	RFM41Z	
K1	Front Cabinet Ass'y	RYM1XC39M8	RYM1X39ME1	
K2	Rear Cabinet Ass'y	RYFXC39M7	RYFXC39ME1	
K2-1	Handle	RKX303Z	RKX303Z1	
K13	Cover, Battery Compartment	RKK273Z	RKK273Z1	
K19	Speaker Box Ass'y	RYM2XC39M8	RYM2XC39ME1	
K23	Speaker Box Cover Left	RKF709Z	RKF709Z1	
K23	Speaker Box Cover Right	RKF709Y	RKF709Y1	

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Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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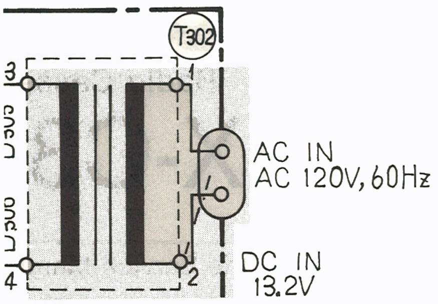
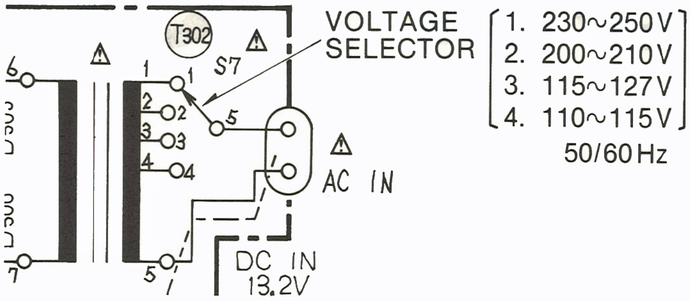
Printed in Japan

■ SCHEMATIC DIAGRAM

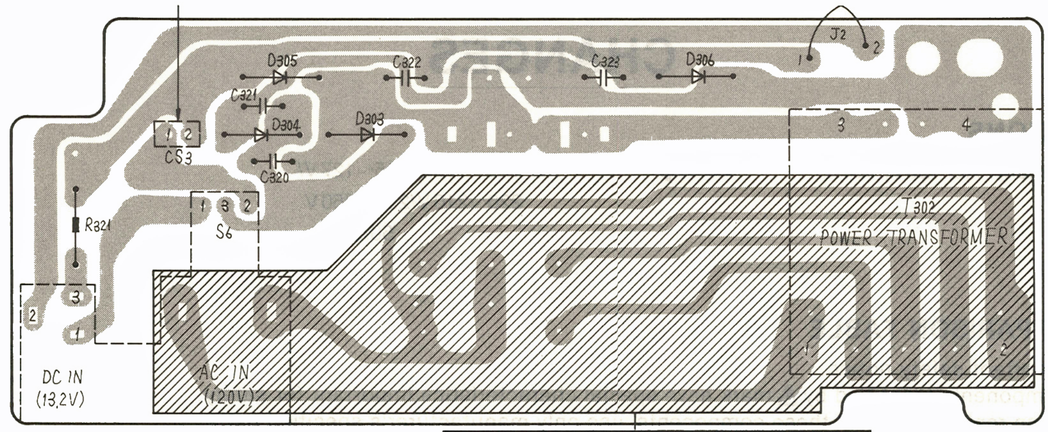

T302
3
1
4
2
AC IN
AC 120V, 60Hz
DC IN
13.2V

RX-C39 [M][C]
(GAD84055417C1)


T302
S7
6
7
1
2
3
4
5
VOLTAGE SELECTOR
1. 230~250V
2. 200~210V
3. 115~127V
4. 110~115V
50/60Hz
AC IN
DC IN
13.2V

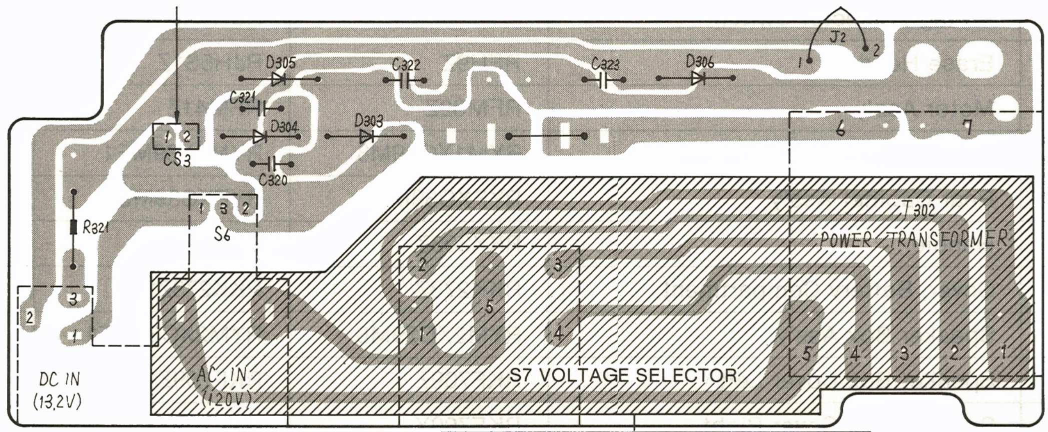
RX-C39 [MZ]
(GAD84075448A2)

■ CIRCUIT BOARD WIRING CONNECTION DIAGRAM


D305
C322
C323
D306
J2
1
2
C321
D304
D303
CS3
C320
R321
S6
1 3 2
3
4
T302
POWER TRANSFORMER
DC IN
(13.2V)
AC IN
(120V)

CAUTION
RISK OF ELECTRIC SHOCK
AC voltage line. Please do not touch this portion.

RX-C39 [M][C]
(GAD84055417C1)


D305
C322
C323
D306
J2
1
2
C321
D304
D303
CS3
C320
R321
S6
1 3 2
6
7
T302
POWER TRANSFORMER
2
3
5
1
4
S7 VOLTAGE SELECTOR
5 4 3 2 1
DC IN
(13.2V)
AC IN
(120V)

CAUTION
RISK OF ELECTRIC SHOCK
AC voltage line. Please do not touch this portion.

RX-C39 [MZ]
(GAD84075448A2)

ORDER NO. GAD8512560S1
A1

Service Manual

Supplement-2

Radio Cassette

RX-C39

(Metaric Gray)

Portable Stereo Component System

This is the Service Manual for the following areas.

M …For U.S.A

C …For Canada.

- Please use this manual together with the service manual for model No. RX-C39 order No. GAD84055417C1. and model No. RX-C39 supplement-1, order No. GAD84115417S1
- This service manual indicates the main differences between; Original RX-C39 M C and supplement-2.

- The notes for the band selector terminal in the schematic diagram should be corrected as follows:

SCHEMATIC DIAGRAM

Notes:

2. S2-1, S2-2: Band selector in "FM ST" position.
(1...FM ST, 2...FM, 3...AM)

⇨

Notes:

2. S2-1, S2-2: Band selector in "FM ST" position.
(1...**AM**, 2...FM, 3...**FM ST**)

Panasonic

Matsushita Services Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
91-238 Kauhi St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

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